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EXAMINER

SUKHAPHADHANA, CHRISTOPHER T

ART UNIT PAPER NUMBER

2625

DATE MAILED: 02/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/510,190

Applicant(s)

ITO, WATARU

Examiner

Christopher T. Sukhaphadhana

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Amendment filed 02 December 2003 has been entered in full.

Response to Arguments

2. Applicant's arguments with respect to **claims 1-11** have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. **Claim 9** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The confusion lies in the fact that claim 11 extracts a face area as the extracted image area while claim 9 extracts a flesh area as the extracted image area. Does the flesh area serve to further limit the face area? Claim 9 seems to be more appropriately dependent from claim 1 and shall be treated as such for the subsequent rejections.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. **Claim 9** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. **Claim 9** recites the limitation "the figure" in line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim. Consider removing the phrase in a manner similar to that of claim 1, lines 2 and 4.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 1-4 and 10** are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue (U.S. Patent 5,524,069, newly cited, "Inoue").

9. In regards to **claim 1**, Inoue discloses an image processing method (Fig 4) for carrying out image processing on an image, the image processing method comprising the steps of: extracting an area in the image (col 6, lines 25, "each intensity component"); and adjusting: density (col 7, lines 14-16) of the extracted image area based on density information of an area in the image surrounding the extracted image area so as to compensate for an effect of density of the surrounding image area on visual perception of the density of the extracted image area; and color (col 6, lines 20-24) of the extracted image area based on color information of the

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surrounding image area so as to compensate for an effect of color of the surrounding image area on visual perception of the color of the extracted image area.

10. In regards to **claims 2-4 and 10**, all the elements set forth in these claims have been addressed in the argument of claim 1.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 5-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (U.S. Patent 5,524,069, "Inoue") as applied to claim 1 above, in combination with Gonzalez et al (*Digital Image Processing*, 1993, "Gonzalez").

13. In regards to **claim 5**, Inoue does not expressly disclose the method further comprising: designating an area surrounding the extracted image area as a concentric area in the image excluding the extracted image area.

However, Inoue does disclose low pass filtering (col 6, lines 20-24, and col 7, lines 14-16). Inoue does not expressly disclose the specific method of low pass filtering.

Gonzalez teaches a means of low pass filtering (p 192, Fig 4.21(b)) that designates an area surrounding the extracted image area as a concentric area in the image excluding the extracted image area.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Gonzalez's filtering into Inoue's method because it provides an enabling method to perform Inoue's low pass filtering.

14. In regards to **claim 6**, Inoue does not expressly disclose the method further comprising: determining the surrounding image area such that the surrounding image area has a radius of 3 times a radius of the extracted image area.

However, Inoue does disclose low pass filtering (col 6, lines 20-24, and col 7, lines 14-16). Inoue does not expressly disclose the specific method of low pass filtering.

Gonzalez teaches a means of low pass filtering (p 192, Fig 4.21(b)) that determines the surrounding image area such that the surrounding image area has a radius of 3 times a radius of the extracted image area.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Gonzalez's filtering into Inoue's method because it provides an enabling method to perform Inoue's low pass filtering.

15. In regards to **claim 7**, Inoue does not expressly disclose the method further comprising: dividing the surrounding image area into sub areas; and calculating an average pixel density of each sub area.

However, Inoue does disclose low pass filtering (col 6, lines 20-24, and col 7, lines 14-16). Inoue does not expressly disclose the specific method of low pass filtering.

Gonzalez teaches a means of low pass filtering (p 192, Fig 4.21(b)) that divides the surrounding image area into sub areas (each of the 24 other pixels) and calculates an average

pixel density of each sub area (since the result of the lpf is the weighted sum of the surrounding 24 pixels, each of the densities of the 24 other pixels are inherently calculated).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Gonzalez's filtering into Inoue's method because it provides an enabling method to perform Inoue's low pass filtering.

16. In regards to **claim 8**, Inoue does not expressly disclose the method further comprising: calculating density and/or color information of the surrounding image area.

However, Inoue does disclose low pass filtering (col 6, lines 20-24, and col 7, lines 14-16). Inoue does not expressly disclose the specific method of low pass filtering.

Gonzalez teaches a means of low pass filtering (p 192, Fig 4.21(b)) that calculates density and/or color information of the surrounding image area.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Gonzalez's filtering into Inoue's method because it provides an enabling method to perform Inoue's low pass filtering.

17. **Claims 9 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue (U.S. Patent 5,524,069, "Inoue") as applied to claim 1 above, in combination with Chen (U.S. Patent 6,141,442, previously cited, "Chen").

18. In regards to **claim 9**, Inoue does not expressly disclose the extracting step extracting a flesh area in the image as the extracted image area and the adjusting step adjusting at least one of density and color of the flesh area.

However, Inoue does disclose the extracting step and adjusting step as set forth in the argument of claim 1 above. Furthermore, Inoue discloses these steps as part of a method of extracting a characteristic figure from a color picture (Fig 4 and abstract).

Chen teaches extracting a flesh area (ref 1501 and 1502, Fig 15 and col 12, lines 62-66) as an extracted image area and adjusting (Fig 16 and 17, and col 15, lines 4-14) at least one of density and color of a flesh area.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Inoue's method to extract and adjust Chen's flesh area because Chen discloses his image segmenter 302 utilizes any well-known image segmentation techniques (Chen, col 7, lines 22-25) where Inoue's method has an excellent extraction property when an attribute of the pixels on the characteristic figure is not uniform or when the background picture is unknown (Inoue, col 1, lines 59-64).

19. In regards to **claim 11**, Inoue does not expressly disclose the extracting step extracting a face area of a figure in the image as the extracted image area.

However, Inoue does disclose the extracting step as set forth in the argument of claim 1 above. Furthermore, Inoue discloses this step as part of a method of extracting a characteristic figure from a color picture (Fig 4 and abstract).

Chen teaches extracting a face area of a figure (ref 1501 and 1502, Fig 15 and col 12, lines 62-66) as an extracted image area.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Inoue's method to extract Chen's flesh area because Chen discloses his image segmenter 302 utilizes any well-known image segmentation techniques (Chen, col 7, lines 22-25)

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where Inoue's method has an excellent extraction property when an attribute of the pixels on the characteristic figure is not uniform or when the background picture is unknown (Inoue, col 1, lines 59-64).


Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher T. Sukhaphadhana whose telephone number is 703-306-4148. The examiner can normally be reached on 9a-4p M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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